

REMARKS/ARGUMENTS

Reconsideration of this application and entry of this Amendment are solicited. Claims 1-7 remain active in the application subsequent to entry of this Amendment.

Claim 1 is amended in order to more particularly point out and distinctly claim that which applicants regard as their invention. Specifically, applicants define their invention in which the active material is hydrogen storage alloy particles as described throughout the specification and in particular at page 7, lines 2-4. The thermoplastic xylene-formaldehyde resin binds the hydrogen storage alloy particles to each other or binds the hydrogen storage alloy particles with the substrate. Corresponding changes have been made to claim 3.

Referring to the Official Action, pages 2-4 relate to objections and other issues raised in the previous Official Action and applicants' response to same in the Amendment filed July 23, 2003. In the examiner's comments, particularly in item 10, it is made clear that the examiner does not see the structural differences between the rejected claims and the disclosure of US 5,750,287 to Kinoshita et al. Applicants have addressed the examiner's concerns in item 10 and other aspects of the current Official Action and appropriately amended their claims to emphasize the structural differences between the subject matter defined in their claims and the applied reference.

The structure of the electrode of the present invention is an active material layer formed on the electrode substrate containing hydrogen storage alloy particles and thermoplastic xylene-formaldehyde resin ... where the thermoplastic xylene-formaldehyde resin binds the hydrogen storage alloy particles to each other, or binds the hydrogen storage alloy particles with the substrate. Claim 1 is above amended to make this structure clear.

On page 5 of the Official Action, claims 1-7 are again rejected as allegedly being anticipated by the Kinoshita et al reference. Applicants respectfully traverse on the basis

of the deficiencies in the applied reference and the amendments made to the claims now under review.

The invention as set forth in amended claim 1 relates to an improvement of a binder to be used to an alkaline storage battery, and as is disclosed in line 7 of page 3 to line 1 of page 4, this invention employs a thermoplastic xylene-formaldehyde resin to solve a problem peculiar to the alkaline storage battery in that the hydrogen storage alloy falls off from the electrode substrate.

That is, while storing the electrode coated with the hydrogen storage alloy particles on the substrate for a long period of time, or when preparing an alkaline storage battery using the hydrogen storage alloy particles, there arises a problem that the hydrogen storage alloy falls from the substrate. The present applicants have determined that the source of this problem is that the binder, which binds the hydrogen storage alloy particles to each other, or binds the hydrogen storage alloy particles with the substrate, is deteriorated. Applicants have found using a thermoplastic xylene-formaldehyde resin as a binder is a convenient and effective way to solve this problem.

In contrast to the present invention, the technique shown in Kinoshita is concerned with an improvement of an insoluble and infusible substrate storing an active substance "to control the amount of lithium in the cell" (lines 3 to 8 of column 2), in a rocking-chair system which, at charging, supplies lithium from a positive electrode to a negative electrode, and at discharging, returns the lithium from the negative electrode to the positive electrode (lines 30 to 35 of column 1). Kinoshita describes the use of an equivalent substance to the thermoplastic xylene-formaldehyde resin as a substance forming the insoluble and infusible substrate. This insoluble and infusible substrate corresponds to the electrode substrate mentioned in the subject application, not to the binder.

Further, the insoluble and infusible substrate made from a substance equivalent to the thermoplastic xylene-formaldehyde resin is used with purposes of *stably doping lithium* as the active substance *from the outside of the electrode to the interior of the*

electrode, and of stably carrying out doping of lithium and de-doping (lines 26 to 38 of column 3). Accordingly, it is apparent that this insoluble and infusible substrate does not bind particles of lithium as the active substance to each other, or bind the lithium to the insoluble and infusible substrate.

In addition, the electrode shown in Kinoshita does not contain a hydrogen storage alloy nor have a structure of coating electrode materials onto the substrate for binding the hydrogen storage alloy particles to each other, or binding the hydrogen storage alloy particles to the substrate. Therefore, storing Kinoshita's substrate for a long period of time, or preparing an alkaline storage battery using this substrate, the problem that the hydrogen storage alloys falls from the substrate does not arise. Apparently, the thermoplastic xylene-formaldehyde resin is used for a purpose different from that of the subject application.

As explained above, for accomplishing a different purpose from that of Kinoshita, the subject application uses a thermoplastic xylene-formaldehyde resin applied to an electrode having a structure different from that of Kinoshita. As the structures are different, there is no anticipation.

The above comments make it clear that the amendments made to claim 1 distinguish from the content of the applied reference. Claims 2-7, by virtue of their dependency from claim 1, also distinguish from the disclosures of the cited reference. None of these claims are anticipated and thus the rejection should be withdrawn.

The electrode of the present invention is an active material layer formed on an electrode substrate containing hydrogen storage alloy particles and thermoplastic xylene-formaldehyde resin. The thermoplastic xylene-formaldehyde resin binds the hydrogen storage alloy particles to each other, or binds the hydrogen storage alloy particles with the substrate. Claim 1 is above amended to make this structure clear.

MURATA et al.
Appl. No. 09/813,967
December 11, 2003

For the above reasons it is respectfully submitted that the claims of this application define inventive subject matter. Reconsideration, entry of this Amendment and allowance are solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____



Arthur R. Crawford
Reg. No. 25,327

ARC:eaw
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100